slightly packed. I have known persons who stoutly maintained, from experiments made, that the wings of the fruit of the tulip-tree amounted to little, because they did not carry the fruit through the air like a miniature balloon.

The nuts of the basswood have also frequently been seen drifting on the snow before the wind, aided by the decurrent bract which is attached in such a way that the fruit cluster is not likely to remain flat on the snow or on the ground.

Numerous other examples could be cited, but we shall leave the rest of them for some of the sharp students who are studying botany in winter.—W. J. BEAL, *Agricultural College, Mich.*

EDITORIAL.

WITH THIS INITIAL NUMBER of a new decade before us, it is impossible not to think of the change since a single naked sheet made its appearance a little more than ten years ago and announced its desire to become the organ of botanists. It was projected by one whose determination to make it succeed was unfailing, and so through troubles of all kinds the GAZETTE made its way. Desirable articles came in slowly, subscriptions still more slowly, and advertisements not at all, the constant financial loss being set over against a constantly increasing experience. At last botanists thought the struggle had been long enough to show vitality, and articles and subscriptions began to come in more rapidly, until the GAZETTE has entered upon its second decade with the hearty good will and substantial support of American botanists. The numerous letters of warm congratulation attest the fact of the very strong place the GAZETTE has made for itself, and it hardly needs to be said that its editors will spare no labor in trying to make it still more indispensable. In these days of numerous ephemeral periodicals it is both a strange and a creditable thing that the GAZETTE has survived, and it helps to emphasize the fact of the growing interest and vigor in botanical studies. The history of this journal can be taken as an index of botanical activity, and this country is to be congratulated that its botanists are so thoroughly aroused and energetic that the GAZETTE can enter upon its second decade with such enlarged space and aspirations. There can be no doubt but that the coming decade will witness unusual botanical activity in this country, many young men, strong, well-trained, and well-equipped, having entered the field. The GAZETTE proposes to stimulate, to assist, to record this activity, and no honest worker need fear that his work will be lost. And so this journal, strengthened by the struggles and successes of ten years, faces its second decade with the marks of undoubted success, and as it deserves, so will it expect the hearty support of every American botanist.

A LITTLE REFLECTION will show that the recent sale in New York city of orchids belonging to the Morgan estate, at which single plants brought from one to nine hundred dollars each, has some relation to the progress of botanical science. In this age any science is stimulated into increased activity by its objects becoming of commercial value. In the domain of electrical and me-

chanical sciences the importance of their applications has had a reciprocal influence upon the further development of them as pure sciences; plenty of illustrations to the same end might be taken from chemistry, mineralogy, zoology and other departments of learning. A case, analogous in some respects to that under consideration, is the wholesome growth of veterinary science in this country during the last few years, a progress to be traced in some degree to the great increase of thorough-bred and valuable stock whose owners demand the services of skillful and learned practitioners. The increased cultivation of rare and costly plants must in a similar way lead to a demand for additional knowledge in regard to various physiological, pathological and even structural matters which have a bearing upon their growth and well-being. The important question of timber in this country has led to the admirable botanical work of Professor Sargent in connection with the tenth census; in Germany, where the necessity of forestry knowledge has been still more keenly felt, much attention has been devoted to the diseases of trees, involving a careful investigation of the life histories of a number of species of fungi. Thus in many ways which the reader will have no difficulty in calling to mind does the market value of a class of objects have an indirect influence upon the recondite investigations which underlie the applications of science. One element in making this influence real and effective, however, is a readiness on the part of those holding commercial interests to accept scientific facts and to encourage their discovery. In agriculture, horticulture, floriculture, etc., it is unfortunately true that there is great backwardness in seizing and applying scientific results and methods, which hinders the advancement of those professions and at the same time fails to afford a needed stimulus to new investigations regarding plants and kindred subjects. Still there is hope of better things for the future; the fashion for orchids, roses, chrysanthemums, or other flowers, may not now mean much to the botanist, and yet in so far as any influence is really exerted upon botanical science it is beneficial.

IT SO HAPPENS that one of the editors has been using for reference both the dispensatories alluded to by "*R.*" in an "open letter." The opinion expressed by him is amply borne out by our experience. The descriptive terms of botany are carelessly used and distinctions which are important are entirely overlooked. Of course it is to be remembered that the dispensatories are not written for botanists, but for pharmacists and physicians, and this fact necessitates the use of somewhat less technical language. It is, however, a point to be insisted upon, that the absence of technicality ought not to mean inaccuracy. One of the volumes referred to is especially negligent in the matter of quoting authorities for the scientific names of plants. This frequently renders the identification of the plant named quite impossible. So many changes are constantly being made in the nomenclature that it is not to be expected that such works as these should keep up with them, though an attempt should be made to use the best established names. But in the midst of such changes and for the reason that the names are changeable, the least that can be done is to quote the authority for whatever name is used. When the next revision of these two very useful books is made, by all means let the editors use every en-

deavor to have the botanical portions as complete, exact and reliable as possible. At present they are neither exact nor reliable, though the latest editions are markedly better than former ones.

THE CUTTING UP of published exsiccatæ and distribution of the specimens in the general herbarium is advocated by Professor Bessey in the *American Naturalist* for December, and the method has much to commend it. This brings all the specimens of a group together and makes their examination simple and easy. The saving of time and patience may be well illustrated by an attempt to find a particular specimen in the unindexed and voluminous collections of von Thümen for example, which, unless much time is taken, may lead to no other result than doubt whether it occurs there or not. Uniform treatment of this kind has been generally adopted in the large phanerogamic herbaria of the country, and it seems to us could well be extended to the cryptogamic collections—in fact that there should be, when possible, but a single series in each herbarium, ranging from the protophyte to the highest angiosperm.

THE DAY IS not far distant, we believe, when phanerogamic botanists will do as zoologists, bryologists and mycologists are now doing in quoting authorities for plant names, *i. e.*, cite not only the name of him who combines the generic and specific names, but also the one who first distinguished the plant and assigned to it a specific name. The burden of synonymy is growing greater day by day.

THE GENERAL INDEX to the first ten volumes has been somewhat delayed in its preparation, but will soon be ready.

OPEN LETTERS.

Seeds wanted.

Professor Schübeler, of Christiania, Norway, whose works upon the history of cultivated plants and the changes that have occurred in the distribution of indigenous vegetation are so well known, greatly desires fresh seeds of our Indian rice, Hydropyrum esculentum, or Zizania aquatica. If any of our western botanists can supply them they will much oblige him, and also the subscriber,

ASA GRAY.

The Dispensatories.

I have had occasion to consult extensively the latest editions of the National and U. S. Dispensatories, and am much surprised at the looseness there found in the use of botanical terms and the frequent inaccuracy of the botanical information (?) there given. Surely, in works of such prominence and importance the very best botanical talent ought to be employed to contribute this portion, as has apparently been done in the chemical, pharmaceutical, and therapeutic parts. Perhaps a word from the GAZETTE would be of influence upon the next editions of these books.

R.

A Phallus.

If the reply be within the scope of the GAZETTE, I should be very glad to know if there be any means of extirpating from the soil the spores of a most